



National Park Service Rock Creek Park Curriculum Based Program

Giants of the Forest Hike

In this program, students will use their senses to identify the stages of the tree lifecycle and the oldest trees of Rock Creek Park, and recognize natural and man-made threats that affect trees at various stages.

Curriculum Based Topics:

Trees, Lifecycle, Senses, Anatomy of Trees, History, Pollution

Background Information:

Trees much like humans, are never exactly like another, and grow and change over seasons and years. There are distinct stages that can be compared to human growth; seed, youth, middle-age, elderly, and waning health. In this program, students use their senses to identify differences in size and condition of trees and feel and smell the process of trees decomposing into soil. They will also relate to the interdependence of animals, people, and trees, as they listen and look for signs of other inhabitants of the forest, particularly those that use the trees for shelter and food.

The American Forestry Association has done a study on trees and their lifespan. The findings showed that the life expectancy of a tree (such as oak or maple) in a rural setting was about 150 years. The same tree, in a city location, had an average life span of only 60 years. The average lifespan of the same tree in an urban, downtown area was only 13 years. (Age of Trees. Caplan, Larry. Courier and Press. November 25, 2001.)

There is a particular place in the park, the Melvin Hazen Trail, which has a concentration of some of the oldest trees in the area. These trees are between 150-300 years old and have lived through de-forestation, the Civil War, development of the city of Washington D.C., blight, erosion, and smog. Students will learn to identify and recognize the significance of these giants of the forest.

Audience: 2nd-4th grades.

Length: 1.5 Hours.

Location: Peirce Barn (2401 Tilden Street, NW) or Peirce Mill

Students per group: maximum of 30

Chaperones per group: 3-5

Curriculum Based, Standards of Learning:

MD Standards

3.3.8 - Explain that animals need air, water and food and that plants need air, water, nutrients, and light to survive.

(MLO 3.4)

DC Standards

GRADE 1-3- The student will identify the body organ associated with each of the five senses and use the senses to observe and describe common objects.

GRADE 3- Discuss observations through dialogue and sharing sessions.

GRADE 1-3- Observe and describe similarities and differences among living things.

GRADE 4-explain how life cycles are different for different organisms

VA Standards

Earth Patterns, Cycles, and Change

2.7 The student will investigate and understand that weather and seasonal changes affect plants, animals, and their surroundings.

Key concepts include * weathering and erosion of the land surface.

Resources

2.8 The student will investigate and understand that plants produce oxygen and food, are a source of useful products, and provide benefits in nature.

Key concepts include * plants provide homes and food for many animals and prevent soil from washing away.

Earth Patterns, Cycles, and Change

3.8 The student will investigate and understand basic sequences and cycles occurring in nature.

Key concepts include * sequences of natural events (day and night, seasonal changes, phases of the moon, and tides); and * animal and plant life cycles.

Resources

3.10 The student will investigate and understand that natural events and human influences can affect the survival of species.

Key concepts include * the interdependency of plants and animals;

* human effects on the quality of air, water, and habitat;

* the effects of fire, flood, disease, erosion, earthquake, and volcanic eruption on organisms.

Life Processes

4.4 The student will investigate and understand basic plant anatomy and life processes.

Key concepts include * the structures of typical plants (leaves, stems, roots, and flowers).

Living Systems

4.5 The student will investigate and understand how plants and animals in an ecosystem interact with one another and the nonliving environment.

Key concepts include * life cycles; and * influence of human activity on ecosystems.

Goal: To introduce students to the oldest trees in Rock Creek Park; illustrate the life cycle of trees, and the negative natural and man-made effects.

Objectives: By the end of this program, students will be able to;

1. Describe the 4 of the 5 main stages of the tree life cycle.
2. Recognize the oldest trees in the forest.
3. Identify two threats to the health of trees.
4. Identify two things an individual can do to create a better environment for trees.

Safety and Resource Management Message:

- Trail may be slick - after rain or snow.
- Be aware of Poison Ivy - three-pointed leaves, hairy vines.

Books for the Classroom:

The Man Who Talked to a Tree. Baylor, Byrd.

Oak and Company. Mabey, Richard.

The Giving Tree. Silverstein, Shel.

Tree Flowers. Selsam, Milicent E.

Pre-visit Activities:

1. Have you ever met a tree?

Have children share with the class different kinds of trees they have "met." (trees they have near their homes, climbed, picked fruit from, seen squirrels in, raked and played in the fall leaves, seen knocked over, are green all year long, biggest, smallest they've seen.)

Lead discussion to basic understandings that we know many different kinds of trees and that they offer us many different things, from shade, to play, to shelter, to food.

2. Trees - One of a kind

What are some of the unique characteristics or features of trees?

No two trees are exactly alike, just as no two people are just alike. Think about and share characteristics of some favorite trees.

- What are the tree's physical traits? (size; leaves or needles; shape, size; age and stages of life; and color of leaves and bark; fruit and/or nuts.)

- How do people use the tree? (maple syrup, eat nuts, enjoy flowers, collect leaves, burn wood, climb in)

- How do animals and birds enjoy the tree? (for homes; eat the fruit, nuts or seeds; eat bugs under its bark; play)

3. Published by the Class

Have students use a field guide or reference book to learn more about a particular kind of tree. Have each student pick one kind of tree, and compile their work into a big scrapbook/field guide about all their trees. Bring the field guide to the site visit.



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Post Activities:

4. Careers in the Trees

Invite a landscaper or nursery owner to come and share information about trees and about their careers.

5. Trees - Towering Roots of Life

Have students research topics about how important trees are for human and environmental purposes - to prevent soil erosion, to provide shade and winter wind breaks, to produce oxygen, logging, rain forest issues.

6. Planting a Future

Contact a county conservationist or another group in the community that plants seedlings every year. Have the class participate by planting a tree at your school. Assign a new "team" each month to monitor the health and growth of the tree over the school year, and possibly into the summer. Have them keep a journal of notes and drawings of the changes in the tree.

7. Meet a Tree

Alternatively, have the class break into small groups. Have each group pick a tree near the school and answer some of the following questions:

- Is the tree young, grown up, or old?
- Do your arms reach around the tree?
- Stand back from the tree. What is its shape?
- Are the leaves flat or broad? Or narrow or needle-like?
- What color are the leaves? Are they still on the tree? Have most of them fallen?
- What color are the smallest twigs?
- Is the tree alone, or near other trees?
- Are there seeds or fruit on the tree? Flowers?
- Look for plants growing under or on your tree. Record what kinds [lichen, moss, mushrooms, grasses]
- Look for insects, birds, and other animals on your tree. Record your observations.
- What is special about your tree?
- If you could interview the tree, what questions would you ask it?

* Have students write a poem about the tree with the answers they recorded.

* Have the students periodically visit the tree to monitor the health and growth of the tree over the school year, and possibly into the summer.

* Have students conduct the above activity as a homework assignment in their neighborhood.

8. Trees as Art

Do bark rubbings or leaf rubbings from items collected from the school grounds (or those you or the students have brought from home).

9. Design a Perfect Garden

Using their scrapbook have children design a yard, park, or school playground and include different kinds of trees for different purposes, such as shade, home for birds and squirrels, wind protection, flowering in spring, greenery all year long.

*** The above activities are adapted from the Reachoutmichigan.org, lesson plan "Have You Met a Tree?"**